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ENVIRONMENT, POVERTY & ECONOMIC GROWTH IN KENYA: WHAT ARE THE LINKS, AND WHY DO THEY MATTER?

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INTRODUCTION

Over the last decade the Kenyan economy has declined as demonstrated by GDP growth rates. Interest rates have fallen, exchange rates remained stable and inflation held down, while private sector investment and employment has grown. Overall, this gives a positive picture of economic growth prospects. When we look more closely at this encouraging economic picture, there are also however causes for serious concern. While Kenya's economy is undoubtedly growing, we can at the same time see signs of environmental degradation and pollution. Forest area has declined, wetlands have decreased and wildlife numbers have fallen. Water and land shortage are widespread, other renewable and non-renewable natural resources are being rapidly depleted. We also see a growing use of toxic chemicals, and discharge of waste and effluent into the soil, water and air. These changes all send signals that Kenya's environmental resource base is slowly being depleted and degraded.

Environmental depletion and degradation are not just environmental issues, they are also economic issues. Environmental degradation is largely caused by economic activities, it also gives rise to economic costs which may prejudice future growth, income and equity in Kenya, and lead to a significant worsening in the incidence

of poverty. There is a dearth of information about either the real economic value of Kenya's environmental resources or about the costs associated with environmental degradation and loss. Little too is known about the types of economic policy instruments that can be used to enhance the management of these scarce resources. Although the ecological aspect is relatively well understood, we are far from an understanding of the economic causes and implications of environmental loss, or from reflecting it in our programmes and projects including development plans, policies, and strategies.

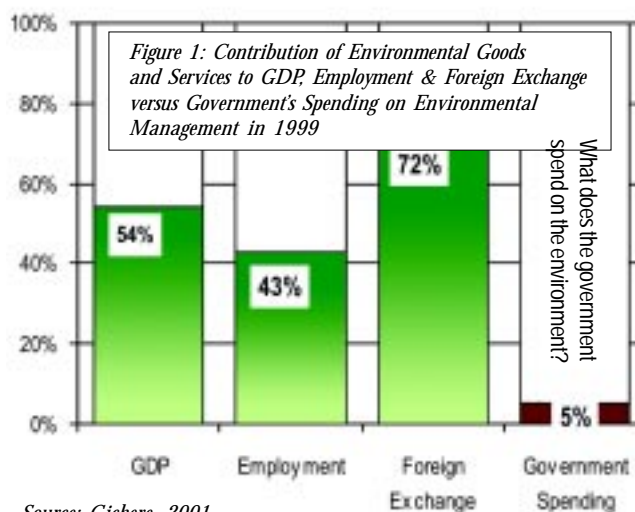
Put simply - natural resources and environmental services underpin an immense amount of economic production and consumption activities. Kenya's main productive sectors - agriculture, fisheries, mining, and timber industry directly depend on raw materials provided from natural resources. Yet these activities, and the economic policies that determine them, often undermine and deplete the very resources they depend on. This leads to a massive downward spiral of environmental degradation, economic loss and poverty. Ignoring the immense contribution of the environmental and natural resources to our economy (see table 1), is tantamount to destroying the base from which the whole economy grows. An urgent question that needs to be answered is whether Kenyans can afford to bear these costs over the long-term.

ENVIRONMENT AND THE ECONOMY: KEY STATISTICS

Table 1: Economic Contribution of environmental goods & services:

Gross returns to national economy from wildlife - \$350 mill/yr
Consumer Surplus from Protected Areas - \$450 mill/yr
Value of forest use to local households - \$94 mill/yr
Value of forest watershed catchment protection - \$50 mill/yr
Expenditures on forest and wildlife conservation - \$2/ha/yr
Costs of soil erosion to crop yields - \$20 mill/yr
Cost of agro-chemical poisoning - \$20-\$890/ha

Source: Emerton, 2001



Source: Gichere, 2001

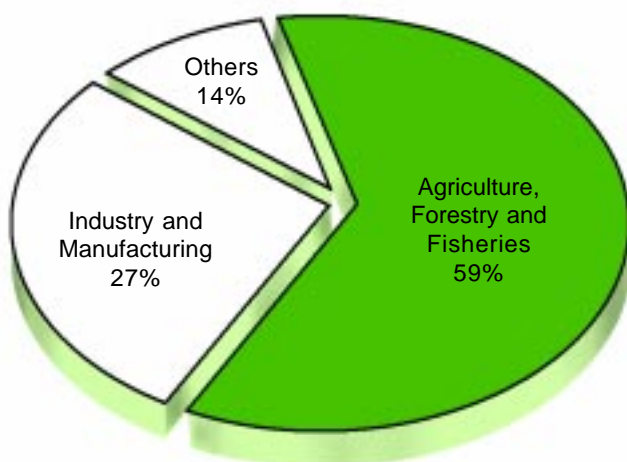
THE CONTRIBUTION OF THE ENVIRONMENT TO THE NATIONAL ECONOMY

The economic well being of this nation is intimately tied to the state of the environment. Yet conventional development statistics and indicators grossly underestimate the economic contribution of natural resources and environment. Presently, official statistics take account only of formal sector marketed outputs. Yet much of Kenya's economic activity does not take place in formal markets. It occurs in rural communities, within the household or through the *jua kali* sector. Official statistics also ignore both the positive economic externalities associated with environmental conservation

and the negative economic externalities associated with environmental loss are excluded. As figure 1 shows, the national economic contribution of environmental goods and services is immense - they account for about half of national income and employment, and nearly three quarters of foreign exchange earnings. These indicators are vital to Kenya's national economy, and environmental resources are in turn vital to these indicators. Yet, despite this positive contribution to our economy, less than 5% of government expenditures are devoted to environmental management.

ENVIRONMENTAL COMPONENTS OF SECTORAL INCOME

Figure 2: Export Earnings Contribution from main Sectors (1999)

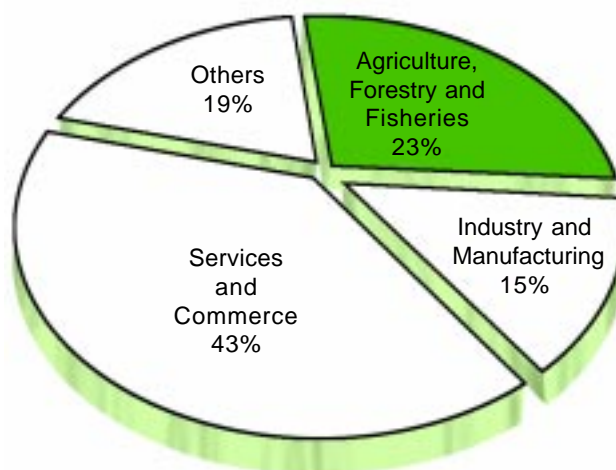


Source: Gichere, 2001

The importance of natural resources to the economy is shown in figures 2&3. There are many examples of the ways in which sectoral income depends on environmental goods and services. Agriculture depends on environmental services such as soil productivity and protection, and it has been estimated that environmental loss and degradation may incur costs to agriculture crop yields and lead to declines in livestock productivity. It is further estimated that 70% of the gross tourism earnings and 5% of the total GDP in Kenya is attributable to wildlife. Approximately 70% of the country's total domestic energy is wood-based.

Kenya, with its ambitious plans of becoming a Newly Industrialised Country by 2020 places a great deal of emphasis on manufacturing and industrial sectors, which require energy. Electricity alone accounts for 29% of total primary industrial and commercial energy demand. Hydropower is the major form of electricity. Electrical energy demand is increasing at an estimated rate of 9%. Continued production at the present levels and expansion of hydropower energy will greatly hinge on how well we protect our natural resources, especially forests which are vital for the protection of water sources.

Figure 3: Composition of GDP at Factor Cost (1999)



Source: Gichere, 2001

WHAT ENVIRONMENTAL DEGRADATION COSTS

Activities carried out in the major productive sectors of the Kenyan economy give rise to wide-scale environmental degradation, characterised by air, water, and land pollution; land degradation; water resources depletion; reduced biological diversity; a decline in natural resources stocks; and loss of ecological services. Some of these losses are irreversible. In addition to the damage caused by environmental degradation to biological and ecological health, it also incurs high costs on Kenya's economy. These costs include:

- Direct economic costs in terms of production and consumption opportunities foregone: As environmental resources decline in quantity and quality, the amount of raw materials available to generate output grows less, and the amount of output itself declines. An example of this is over-fishing, and the consequent - and growing - decline in fish catches and fisheries income. The loss in employment and livelihoods due to ecological transformation of Lake Victoria is estimated to be at least Kshs. 763 million (Bokea and Ikiara 2000).
- Direct economic costs in terms of preventive or avertive expenditure: As environmental resources decline in quantity and quality, a direct cost is implied in terms of the expenditure necessary to prevent environmental degradation occurring. An example of this is the cost involved in installing soil and water conservation structures to prevent on-farm soil erosion.;
- Direct economic costs in terms of replacement cost: As environmental resources decline in quantity and quality, so does the level of goods and ecological services they support. A direct cost is implied in terms of the expenditure necessary to replace these products as they are lost. An example of this is deforestation, which makes it necessary to produce alternative, non-wood sources of fuel and construction materials and at the same time to replace some of the environmental functions of forests, for example instituting downstream flood control infrastructure to replace the watershed catchment protection once provided by forests;
- Indirect economic costs to other production and consumption activities through knock on effects and externalities: As environmental resources decline in quantity or quality they have wide effects on other production and consumption activities, even when these activities do not depend directly on a particular environmental resource. An example of this is agro-

chemical pollution which affects people's health through contaminating foodstuffs, water and soils; which may destroy fisheries by leaching into surface water; and which may harm livestock through soil and water pollution;

- Costs in terms of future economic options foregone: We do not as yet have adequate scientific and technical knowledge to know the full range of production and consumption possibilities which may eventually be obtained from many environmental resources. We also cannot fully predict human and economic needs for goods and services in the future. As environmental resources decline in quantity and quality, a range of possible raw materials for pharmaceutical, industrial and agricultural applications may be lost forever.

Economic benefits of the environment

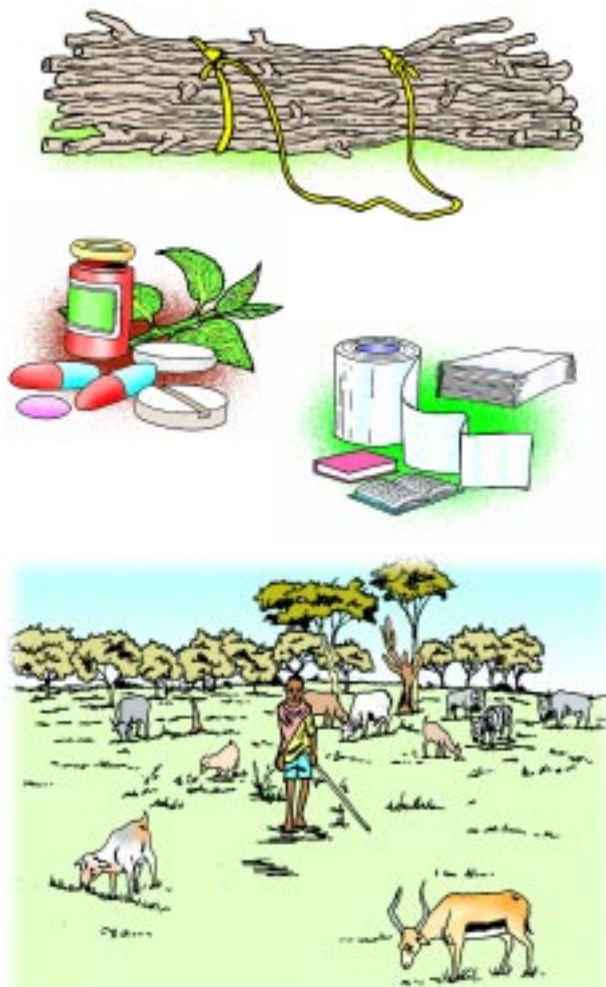


Illustration by Anthony Mwangi

TAKING THE EXAMPLE OF FORESTS

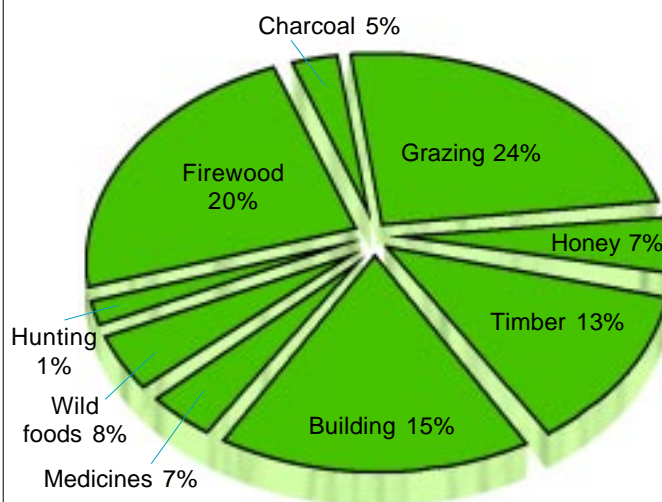
The economic costs of environmental degradation and loss appear in government budgets as well as in the profits of private consumers and producers. To take the example of forests, even though indigenous forests cover less than 3% of Kenya, they have a total standing timber of more than 200 million m³. If harvested sustainably they would yield wood products of more than US\$ 75 million every year. This is enough to supply the domestic energy needs of 1.5 million households, build 100,000 houses and fill 80,000 trucks full of logs.

More than 4 million rural households depend on forest products for their day-to-day needs, worth nearly US\$100 million a year. Kenya's forests could generate more than \$35 million a year in tourist earnings, and their environmental services (mainly in protecting soils and watersheds) are estimated to be worth \$50 million a year (Emerton, Ndugire & Bokea, 1998).

Again we must ask: is the loss of forests an economic cost that either the government or the people of Kenya are willing, or can afford, to bear over the long-term?



Figure 4: The value of Mount Kenya Forest for Rural Households: US\$ 94 million a year



Source: Emerton, 1996

HOW MACROECONOMIC AND SECTORAL ECONOMIC POLICIES LEAD TO ENVIRONMENT AND NATURAL RESOURCES DEGRADATION

Despite the contribution of environmental goods and services to national and sectoral economic output, economic policies have often led to environmental degradation and loss (see Mogaka *et al*, 2001 for a details):

- Macroeconomic policies have influenced the status of natural resources and environment in a number of ways. Even though there have been positive influences as a result of the national trends towards decentralisation, privatisation and devolution of the role of public sector which have all permitted a greater degree of participation in natural resources use and management, much of the economic austerity and poverty that has accompanied economic liberalisation have had negative effects on the environment.
- Policies in environment and natural resources sectors pay little attention to economic considerations. As such the environment and natural resources and goods often is not made to make economic sense to people, to address the economic causes of environmental degradation, or to maximise sustainable economic benefits.
- Sectoral economic policies rarely take cognisance of their dependence on the environment and natural

resources either as a source of raw materials or for services provided, or take these values into account when they set prices.

- In some cases the provision of subsidies to particular sectors and economic activities - for example to agricultural expansion, to industrial development or to energy prices - has actually provided perverse incentives, and encouraged environmental degradation.
- Inequities in the distribution of benefits and costs: most of the sectoral economic policies places a great deal of emphasis on formal sectors such as energy, agriculture, etc. with huge benefits accruing to the formal sectors. Costs of conserving some of the natural resources that these sectors depend on accrue to the local communities.
- Due to the emphasis by the government on the sectoral economic policies at the expense of natural resources, the environment sector is not accorded adequate attention when government budgets are allocated. This poorly financed and under-staffed environment and natural resources sector then finds it difficult to achieve the effective management of these resources, further leading to their degradation.

ENVIRONMENT AND POVERTY - A VICIOUS CYCLE

A vicious cycle exists between environmental degradation and poverty. Yet the environment-poverty link has not been accorded the attention it deserves within the economic planning arena. The majority of the Kenya's population is based in rural areas, and they depend on environment and natural resource for their livelihoods - as illustrated for the case of forests (figure 4). Many of the economic costs of environmental degradation also accrue to the poorest, who are unable to afford to take remedial actions, to engage in alternative livelihoods, or to provide themselves with alternative sources of income and employment. In real world we are seeing a scenario of increased poverty, high levels of environmental degradation, and reduced livelihoods. We postulate that the underlying reasons for this are:

- Formal sectors that are accorded a priority to exploit natural resources, but do so in an unsustainable manner taking more than the regenerative capacity),

leading to their scarcity,

- Benefits accruing from environment often accrue to far-off individuals and companies who do not contribute to local economies,
- Poor communities, in their efforts to enhance their livelihoods have few available or affordable alternatives, and receive few tangible or immediate economic benefits from conserving natural resources,
- Companies reaping the benefits from natural resources hardly ever plough back a portion of the profits for the management and conservation of these resources or for the local communities who live beside the resources,
- Other external factors such as population growth, weak institutions, and policy and market failures are also contributing to both natural resource degradation and poverty.

THE ROLE OF ENVIRONMENT IN RECENT ECONOMIC PLANNING DOCUMENTS

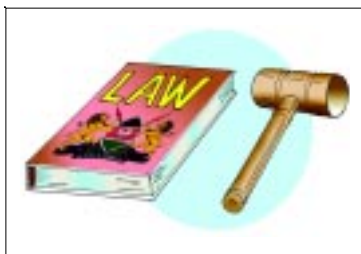
Kenya has since independence endeavoured to improve the standard of living for her people. This commitment is reflected in many National Development Plans and Sectoral policy papers. This is still an uphill struggle. Low living standards prevail, with 52 % of Kenya's population currently living below the poverty line. At the same time we continue to witness environmental degradation at alarming levels. For example it is estimated that 85% of forests cover has been lost since independence - even though 70% of the population depends on environmental goods and services (Gichere, 2001).

The recently launched National Poverty Eradication Plan sets out the strategies for poverty eradication between 1999-2015. A Poverty Reduction Strategy Paper (PRSP) has been prepared identifying priorities and strategies to poverty eradication between 2000-2003. This has two main implications for environmental management. First it will be possible to establish the linkages between the downward economic spiral and the status of environmental goods and services. Available information, though limited, clearly articulates the contribution of the environmental goods and services to the national economy, and the economic costs associated with environmental degradation. Second, the PRSP, which will implement the Poverty Eradication Plan through a three-year rolling plan forms the basis of the Medium Term Expenditure Framework which will guide the government budgeting for 2001-3.

Environmental concerns are covered under the Agriculture and Rural Development Sector of the

PRSP, and will be similarly categorised in the preparation of the 9th National Development Plan and 7th District Development Plans. Yet, because of the significant contribution of environmental goods and services to the national economy, it would have been expected that environment would have accorded it as a sector to itself in the macroeconomic planning process. It is essential to emphasise the role of the environment in Kenya's macroeconomic strategies and development plans - not only in attempting to alleviate poverty, but also in stimulating economic growth. Kenya plans to be a Newly Industrialised Country by 2020, mainly through growth in the industrial and manufacturing sectors. These emerging sectors primarily depend on the natural resources raw materials, and on environmental services to cleanse the many by-products.

The bottom line is - Kenya's economy loses more by ignoring environmental concerns in macroeconomic and sectoral policies, than it gains from the resulting growth. Omitting consideration of environmental concerns impacts negatively on economic growth, and leads to high poverty levels. Impoverished communities are forced to continue exploiting diminishing natural resources, lowering ecosystems' resilience. Sectors gain less and less economic benefits as the natural resource base is degraded. It is crucial that the on-going economic and policy reforms that are reflected in the new National Poverty Eradication Plan, National and District Development Plans ensure a conducive environment for environmental resource management and conservation.



KENYA'S COMMITMENT TO ENVIRONMENTAL CONSERVATION

Kenya has for a long time been making efforts to conserve the

environment and to manage natural resources wisely. There are more than 75 legal statutes that deal with the environment (see ACTS-UNEP, 2001 for details). Since independence Kenya has ratified and joined a number of international conventions concerned with environmental conservation. These include Ramsar, the Convention on Wetlands of International Importance; the Convention on Biological Diversity; the Framework Convention on Climate Change; the Convention on Drought and Desertification; CITES - the Convention on International Trade in Endangered Species of Wildlife Fauna and Flora; the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region; and the African Convention on the Conservation of Nature and Natural Resources.

In line with obligations under the Convention on Biological Diversity, the government is in the process of implementing a National Biodiversity and Action Plan (NBSAP). The NBSAP recognises that population growth and poverty issues are the ultimate causes of biodiversity loss and seeks to implement the National Poverty Eradication Programme components that relate

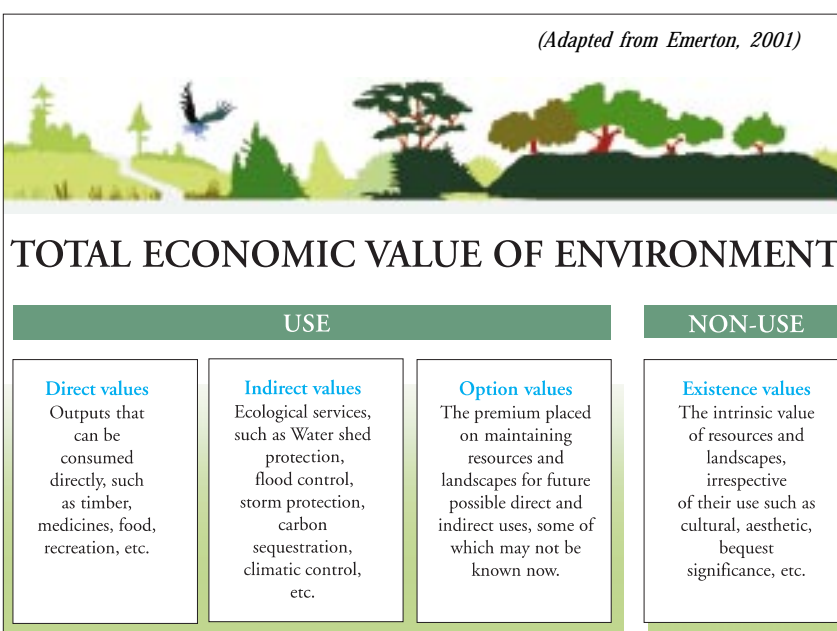


to utilisation of biological resources (NES, 2000). In 1994 a National Environmental Action Plan was developed for the country, and on 14th January 2000, Kenya enacted a new Environment Management and Co-ordination Act (1999). This umbrella legislation governs the management of environmental resources for sustainable development. The Act proposes the formation of a new National Environment Management Authority for the country

REFLECTING ENVIRONMENTAL VALUES IN ECONOMIC DECISIONS

Traditionally, economists and decision-makers have seen the value of environmental resources only in terms of the direct uses they support - the raw materials provided for human production and consumption (for example the timber value of natural forests or the fisheries value of coastal and marine ecosystems). This value is not only incomplete, but also leads to the danger that land and resource management systems will focus only on the commercial-level extraction of resources, often at the expense of other, less tangible, values or wider socio-economic development goals. Because it under-values the environment, this definition also means that conservation

(Adapted from Emerton, 2001)



is often difficult to justify in the face of other, often unsustainable, land and resource uses which appear to yield greater and more immediate returns. It falls into the vicious cycle of natural resources under-valuation, over-consumption and under-funding.

Wider definitions, which encompass the total economic value of the environment, have become increasingly important over recent years. Total economic value includes consideration of broader benefits beyond direct, commercial uses, including non-marketed values,

ecological functions and non-use benefits. As well as presenting a more complete picture of the economic importance of the environment, it clearly demonstrates the high and wide-ranging economic costs associated with the loss or degradation of biodiversity and its components, which extend far beyond the loss of direct use values. This underlines the fact that environmental resources constitute far more than a static reserve. They form a stock of natural capital, which if managed sustainably can yield in perpetuity a wide range of direct and indirect economic benefits to human populations.

CONSERVING THE ENVIRONMENT, ALLEVIATING POVERTY AND STRENGTHENING SUSTAINABLE LIVELIHOODS: WHERE DO WE GO FROM HERE?

Still, more than half of Kenya's population is estimated to live below the poverty level. The environment continues to be degraded at alarming levels as depicted by declining forest cover, land denudation, destruction of coastal resources to mention but a few. Both development and poverty eradication strategies recognise the role that the environment and natural resources play in ensuring sustainable development. But if this has been recognised, then where is the problem?

The bottom line is that environment and natural resources have not yet been accorded the priority they deserve in the national economic planning processes. There remains a need to reflect the full value of the environment in economic policies and development plans, and to ensure that markets, prices, private profits and government decisions all take account of both the economic benefits of environmental conservation and the economic costs of environmental loss. The emerging National Poverty Eradication Plan, National and District Development Plans provide an excellent opportunity to reverse these trends and to set environmental concerns firmly onto the agenda of economic planners and decision-makers. The Kenyan government needs to be proactive in allocating sufficient funds for conservation and management of natural resources in its new Medium Term Expenditure Framework.

It is clear that production and consumption activities can lead to a downward spiral of environmental degradation, economic costs, loss of productive opportunities and an increased incidence of poverty. Conversely, environmental conservation can lead to an upward spiral of economic growth and improved welfare. A major challenge is to ensure that sound environmental management systems are set in place, which will enhance

current opportunities for production and consumption at the same time as sustaining economic growth in the future. A broad range of actions will support sound environmental management, including appropriate policy, legal, institutional and social instruments. It also requires appropriate economic, financial and fiscal incentives for the people who engage in economic production and consumption to act in a way which will not damage or deplete the environment.

The future challenge for Kenya is to continue to achieve economic growth and to generate employment and income at the same time as conserving her natural resource base. It makes good economic sense to do this, and will give rise to wide-scale economic costs if not. If Kenya is to reach the medium and long-term goals for economic growth set out in her Development Plans, and if the incidence of poverty in the country is to be reduced, action to conserve environmental resources is not something that she can afford to delay for much longer.



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Secretariat of Kenya (NES). The Economics Component of this project is co-ordinated by IUCN - The World Conservation Union, and aims at integrating economic instruments for the reduction of forest biodiversity loss into sectoral policies and strategies in East Africa.

The views and opinions in this publication are those of the authors. They do not necessarily reflect those of IUCN, SDC, GEF, UNDP, or FAO.

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